

1. (Amended) A detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein

BI a first conducting layer is displaced from a second conducting layer such that conduction between said layers results when said layers are mechanically forced together, wherein

the first of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn,

a plurality of electrical conductors are connected to said conducting yarns in the first of said layers thereby electrically grouping said conducting yarns to define a plurality of identifiable rows, thereby defining specific regions of the detector; and

each said identifiable row has one of said electrical conductors at each of its opposing ends, thereby allowing different electrical potentials to be applied to each end of conducting fibres within a row.

Please cancel Claim 14 without prejudice or disclaimer of the subject matter contained therein.

Please add the following new claims.

25. (New) A detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein

a first conducting layer is displaced from a second conducting layer such that conduction between said layers results when said layers are mechanically forced together, wherein

the first of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn,

B2 a plurality of electrical conductors are connected to said conducting yarns in the first of said layers thereby electrically grouping said conducting yarns to define a plurality of identifiable rows, thereby defining regions of the detector;

each said identifiable row has a respective electrical conductor; and

a potential is applied across at least one of said regions to determine the position of the mechanical interaction within that region.

26. (New) A detector according to claim 25, wherein the second of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn;

in the first of said layers, conducting yarn extends in a first direction and in the second of said layers, conducting yarn extends in a first direction;


the conducting first direction of the first conducting layer is different to the conducting first direction of the second conducting layer;

said conducting yarns in the second of said layers are electrically grouped to define a plurality of identifiable columns;

each said identifiable column has a respective electrical conductor; and

intersections of said columns and rows define specific regions of the detector.

27. (New) A detector according to claim 25, wherein in said second conducting layer, conducting yarn extends in a first direction and in a second direction different to said first direction.



28. (New) A detector according to claim 25, wherein said detector is configured to present a set of varying electrical characteristics in response to a property of the mechanical interaction such that each varying electrical characteristic corresponds to one of said specific regions.

29. (New) A detector according to claim 25, wherein a partially electrically conducting layer of fabric is disposed between said first and second conducting layers.

30. (New) A detector according to claim 25, wherein said first conducting layer and said second conducting layer are separated by two layers of electrically insulating fabric and said two layers of electrically insulating fabric are separated by an electrically conducting layer of fabric.

31. (New) A detector according to claim 25, wherein said first conducting layer and said second conducting layer constitute single fabric which is constructed to comprise an upper portion and a lower portion, said upper portion comprising insulating weft and conducting warp fibres, and said lower portion comprising conducting weft and an insulating warp fibres.

32. (New) A detector according to claim 31, wherein said upper and lower portions are periodically attached by the inclusion of one of the insulating yarns from either portion, in the other portion.

B2 33. (New) A detector according to claim 25, wherein said fabric is constructed using a weaving process.

34. (New) A detector according to claim 25, wherein said fabric is constructed using a knitting process.

35. (New) A detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein

a first conducting layer and a second conducting layer are displaced at either side of a third conducting layer such that said third conducting layer provides a conductive path between said first conducting layer and said second conducting layer when said layers are mechanically forced together;

the first of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn;

said conducting yarns in the first of said layers are electrically grouped to define a plurality of identifiable rows;

each said identifiable row has a respective electrical conductor;

said identifiable rows define specific regions of the detector; and

said third conducting layer has a conductivity that increases as the pressure of said mechanical interaction increases, thereby facilitating conduction between the first conductive layer and the second conductive layer during a mechanical interaction.

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36. (New) A detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein said detector comprises:

a first conducting layer having a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn,


a second conducting layer is displaced from said first conducting layer,

a pair of electrically insulating fabric layers separating said first conducting layer and said second conducting layer,

a third electrically conducting layer of fabric separating said two layers of electrically insulating fabric,

wherein said electrically insulating fabric layers and said third electrically conducting layer are configured to allow conduction between said first and second electrically conducting layers when said layers are mechanically forced together, and said conducting yarns in the first of said layers are electrically grouped to define a plurality of identifiable rows defining specific regions of the detector.

37. (New) A detector constructed from electrically conducting fabric and configured to present a varying electrical characteristic in response to a mechanical interaction, wherein

 a first conducting layer is displaced from a second conducting layer such that conduction between said layers results when said layers are mechanically forced together, wherein

the first of said layers has a plurality of lengths of conductive yarn and a plurality of lengths of non-conductive yarn machined therein, such that at least one length of conductive yarn is electrically isolated from another of said lengths of conductive yarn,

the second conducting layer has conducting yarn extending in a first direction and in a second direction different to said first direction,

said conducting yarns in the first of said layers are electrically grouped to define a plurality of identifiable rows;

each said identifiable row has a respective electrical conductor; and

said identifiable rows define specific regions of the detector.